US Army Corps of Engineers
Northwestern Division

Columbia River Update

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The Columbia River is the dominant water system in the Pacific Northwest. The Corps of Engineers and other federal agencies are charged with managing the Columbia-Snake river system to best serve the needs of the region and fulfill the requirements of law. This periodic report will focus on how the current hydrologic situation and energy emergencies affect reservoir operations in the Columbia Basin and the resultant impacts on listed species and other project purposes.

2001 Water Year may reach historic low

Low and slow aptly describes the reservoir levels and flows throughout the Columbia Basin this year. Data from the National Weather Service and the National Water and Climate Center suggest that we may see close to 40-year record minimum lows of snowpack in some of the region's critical subbasins.

The latest month-end snowpack measurements taken by the National Resources Conservation Office show an Oregon snowpack of about 64% of average, 52% of average for Idaho and 54% of average for Washington. Preliminary numbers for western Montana show a snowpack below record minimums. Snowpack is the main contributor to spring and summer streamflows.

Streamflow in many areas is forecast in the lowest 10% of the historical record (1961-1990). Forecasts, however, still remain above those for the drought year of 1977 at this time.

Winter power needs continue to tap water stored behind federal projects for flow augmentation in the spring and summer. Juvenile salmon migrating downstream and returning adults will face a critical low flow situation. Refill probabilities at federal reservoirs are diminishing rapidly, with river operators estimating less than a 75% probability for summer refill on June 30. They no longer expect reservoirs to refill to April 10 flood control elevations.

For the week of Jan.28, Federal generation is 1.209 million MW-Hrs per week, with a 7198 average MW. Corps generation is an average of 5302 MW, or about 46% of available capacity.

CURRENT SITUATION

Pool Elevations (Approx. in feet)

	3/31 Flood Control	Today
Libby (CoE)	2423	2407
Dworshak (CoE)	1509	1509
Grand Coulee (BoR)	1283	1242
Hungry Horse (BoR)	3533	3510

Reservoir Operations for week of Jan. 29.

Because of power emergency conditions declared by the BPA, federal agencies agreed to continue emergency operations until Feb.5.

Since last week, the pool at Libby Dam is down by 2 feet from last week with flows continuing at 10,000 cfs, well above a typical low water year outflow of 4,000 cfs. Grand Coulee is down 5 feet from last week, now 48 feet from full pool, drafting almost a foot/day. In Idaho, Dworshak continues to draft 1 foot/day with outflows for power about 5,000 cfs over normal operations at this time of year.

Flows past Bonneville Dam for power and to protect threatened chum redds, or nests, are averaging 130,000 cfs with an 11.7 foot tailwater 24 hours a day.

What is a rule curve?

Rule curves, or flood control guidelines, help river operators determine what the elevation of the reservoir, or pool, behind a dam should be on a particular date.

Rule curves, which are dynamic during the season, are based on the volume forecast.

Using rule curves assists Corps reservoir regulators in shaping and timing reservoir storage during the spring and summer snowmelt, prevent topping local levees, and ensuring an appropriate safety margin in the event of an unexpected weather event.